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United States Patent [19]

Ohgami et al.

[11] **Patent Number:** 5,168,423[45] **Date of Patent:** Dec. 1, 1992[54] **PORTABLE ELECTRONIC APPARATUS
HAVING A DISPLAY UNIT ROTATING IN
VERTICAL AND HORIZONTAL
DIRECTIONS**[75] **Inventors:** Keizo Ohgami; Takashi Hosoi, both
of Tokyo, Japan[73] **Assignee:** Kabushiki Kaisha Toshiba, Kawasaki,
Japan[21] **Appl. No.:** 578,659[22] **Filed:** Sep. 7, 1990[30] **Foreign Application Priority Data**

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[51] **Int. Cl.⁵** H05K 5/02; G06F 1/00[52] **U.S. Cl.** 361/394; 361/380;
248/921; 248/923[58] **Field of Search** 248/183, 278, 349, 919,
248/921, 922, 923; D14/100, 106; 364/708;
361/380, 390, 391, 392, 393, 394, 395, 399[56] **References Cited****U.S. PATENT DOCUMENTS**D. 324,038 2/1992 Izaki D14/106
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Primary Examiner—Leo P. Picard*Assistant Examiner*—Michael W. Phillips*Attorney, Agent, or Firm*—Cushman, Darby & Cushman

[57]

ABSTRACT

A portable computer has a base unit and a flat panel display unit. The base unit has a keyboard and a turntable rotatably connecting to the base unit in a horizontal direction. A display support is fixed to the turntable. The flat panel display unit is pivotally connected to the display supporter. The flat panel display unit rotates in the vertical direction between a closed position for covering the keyboard and an open position for operating the keyboard. The flat panel display unit rotates with the turntable in a horizontal direction between the open position and a twisted position for twisting the flat panel display unit. A display stopper prevents the flat panel display from rotating in the vertical direction when it is in the twisted position.

21 Claims, 12 Drawing Sheets